

literature. This structure has advantages and disadvantages. Whilst it means the 'core' reads quite easily, it is sometimes easy to lose the thread of the main discussion when one returns from reading a 'box'. The boxes themselves draw on a wide variety of material, including both widely cited 'classic' papers, and more up-to-date research. The chapters conclude with a summary, a useful guide through the material cited in the chapter, and additional suggested reading. The chapters dealing with landforms also have useful summary tables, describing the main characteristics of the landforms discussed, and their significance for glacial reconstructions. The text uses a minimum of equations, preferring to present qualitative explanations of the physical processes under discussion, with a liberal use of figures. While this means the book succeeds in forming a simple introduction to the subject, one has to hope that the enthusiasm it does stir in

students is not short-lived once they start to follow up the suggested reading. Whilst respecting the authors' aims of avoiding unnecessary detail, and notwithstanding the bias of the book towards describing glacial landforms rather than glacial processes, I feel that a little more use of mathematics, together with the qualitative interpretations, would ease students into the literature a little more gently, especially in the areas of ice dynamics, glacial hydrology and glacier erosion. This personal caveat aside, however, I feel this book provides a useful, up-to-date introduction to glacial geology, that complements other, more process-based texts.

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GEOMORPHOLOGY SANS FRONTIÈRES edited by S. Brian McCann and Derek C. Ford, Wiley, New York, 1996. No. of pages: xiii+245. Price: \$50.00 (hb). ISBN 0-471-96600-2.

I am sorry to see a good title wasted on a disappointing book. We have here various special pieces from the *Third International Geomorphology Conference* in Canada. There are five invited papers including Ahnert (models), Ota (coral reefs), Rapp (are they nunataks?), and two Canadian contributions, Ford (karst in a cold climate) and Shaw (meltwater formed all the glacial features of Canada). These are in the main authoritative and in several cases hold the attention well, perhaps Rapp best of all. Shaw is the wild card; I think the Canadian organizers lost an opportunity to match his interesting ideas with a more conventional approach which actually believes that glaciers can perform geomorphological work. No doubt many of the landscapes Shaw describes do bear signs of effective work by subglacial meltwater, but that is not to deny the work of ice – and the evidence for that is simply omitted.

The opening paper is Denys Brunsden's Presidential Address, an indulgent piece which includes bits of ethics and ruminations about transborder problems over water resources and river management, with a core of examples of work done. As a confirmed academic who from time to time is prepared to give advice or in other ways to interfere in practical

problems, I am rarely persuaded by these attempts to justify straying from the path of real research. As for the issue of the 'Chartered Geomorphologist', it should be noted that most of this work is actually done by interdisciplinary teams.

Sandwiched between these items is a discussion of Brunsden's Frankfurt paper 'Tablets of stone' with its unhappy subtitle, 'the ten commandments of geomorphology'. Six distinguished discussants are followed by a rather apologetic response from the author. The problem with this bright idea is that the original is too weak to sustain the attention; it is neither a strong theoretical statement, nor a set of operational guides. Indeed, going back to read it, I was reminded that the rest of the Frankfurt volume¹ is far better, both in content, and in its form of publication, than this book. As a final niggle, despite the title, few foreign papers are cited by the English-speaking authors here, and those that are usually appear without accents. Having managed *Frontières* in the title, I would have thought Büdel within reach.

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REFERENCE

- ¹ Geomorphology and Geoecology. General, invited and special lectures, *Zeitschrift für Geomorphologie, Supplementband*, 79, 1990, 216 pp.

GEOMORPHOLOGY OF DESERT DUNES by N. Lancaster, Routledge, London, 1995. No. of pages: xix+290. Price: £55.00 (hb), £17.99 (pb). ISBN 0-415-06093-1 (hb), 0-415-06094-X (pb).

When Nick Lancaster writes another book about desert dunes, we should all pay extra attention. He has the longest and most consistent record of work in dunes among geomorphologists, having published major contributions to almost all their geomorphological aspects, from sediments, through dynamics and form to geological history, and he has

worked in some of the most exciting field locations. Moreover, the rapid advances in the field in the last decade create an urgent need for reassessments of research like this, for workers in the field and for outsiders. Although the discipline is still firmly based on the amazingly secure foundations laid by Bagnold, he would scarcely have recognized the superstructure that is developing. As Lancaster himself says, aeolian geomorphology has 'come of age'.

The *Geomorphology of Desert Dunes* splices Lancaster's own work to that of the small band of others who are contributing to the advance. A discussion of sand movement

in the wind is followed by a description of dunes (morphology and morphometry) and their sediments. This leads on to chapters on dune dynamics, the controls on morphology, sand seas and palaeoenvironments.

The style, aimed at an audience of non-specialist geomorphologists, is very easy to comprehend. The text incorporates all the essential elements of the recent advances, and brings some new insights, particularly in the sections on palaeoenvironments. Of my few cavils, the major one is that, once the discussion moves away from sand movement, the entry point is form, not process. This is seen in the early placing of the lengthy chapter on morphology and morphometry. I would have preferred a more morphodynamic perspective. I believe that an emphasis on form is a symptom of what Lancaster calls the absence of a good conceptual framework. The discipline may have come of age but, by this token, it has yet to reach maturity. I would also like to have seen more critical appraisal of techniques, like sediment analysis and morphometry, in terms of what they tell us about dunes; much of the material is presented with little comment about value. But these are quibbles about

a text that will be found a valuable reference by very many geomorphologists and students.

The book is entering a rather congested market. It presents strong competition for Pye and Tsoar's *Aeolian Sand and Sand Deposits* (1990) (much more expensive and, in the environment of rapid advance, now perhaps dated) and Tchakerian's edited *Desert Aeolian Processes* (1994), a much more North American focus. It also challenges, at the same level, about half of the ground covered by Livingstone and Warren's *Introduction to Aeolian Geomorphology* (1996). Furthermore, it goes over the same ground as many chapters in Thomas's edited *Arid Zone Geomorphology* (1997), Abrahams and Parsons' edited, *Geomorphology of Desert Environments* (1994) (aimed at a more advanced audience) and Cooke, Warren and Goudie's *Desert Geomorphology* (1994).

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